

RADIATION TEST REPORT

PRODUCT: OP467AYQMLR

MASK:

FILE:

DATE CODE:

GAMMA: 0, 100K

GAMMA SOURCE: Co60

DOSE RATE: 38.25 rad/sec

FACILITIES: National Semiconductor
Sunnyvale, Ca.

TESTED: March 16,2005

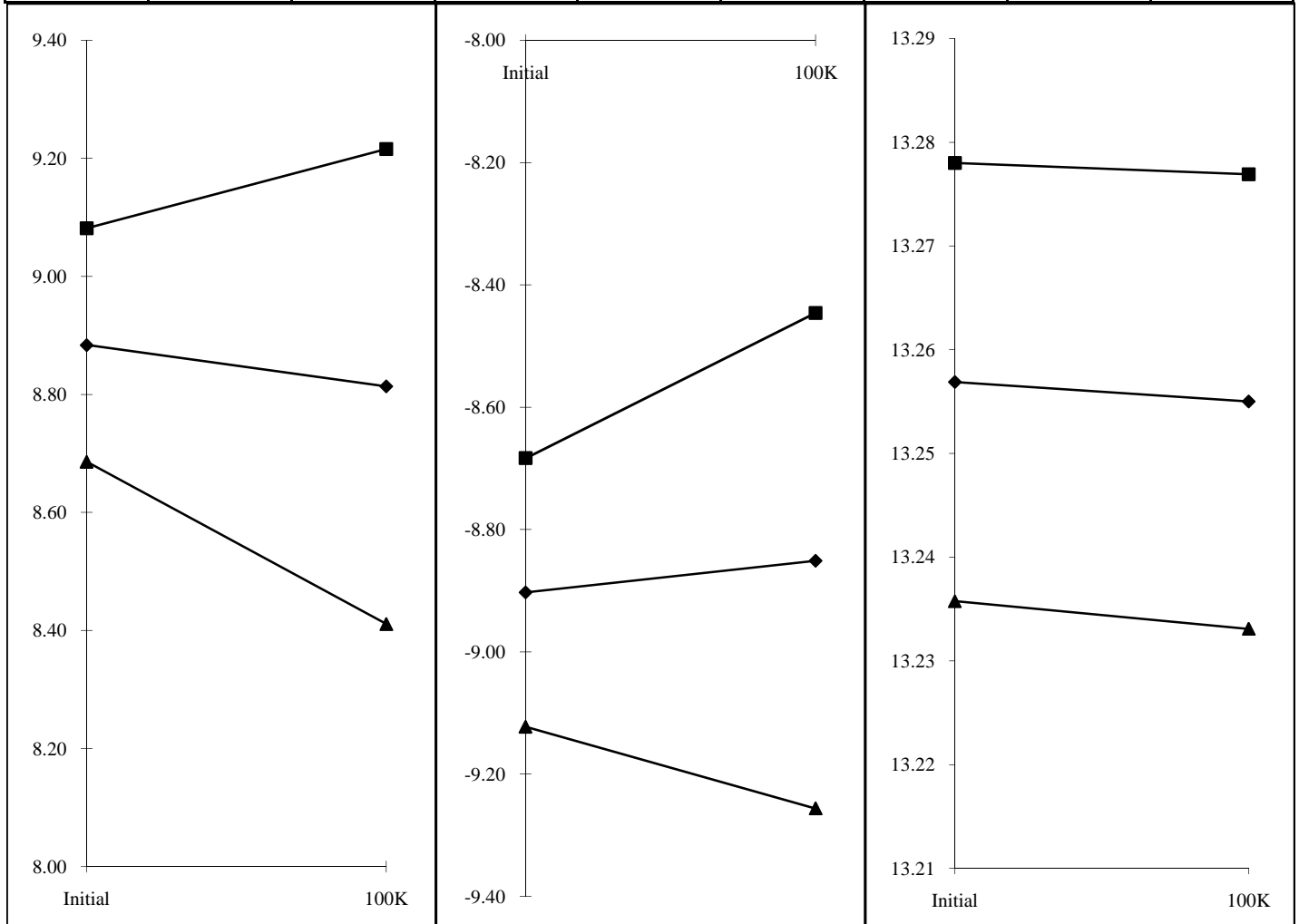
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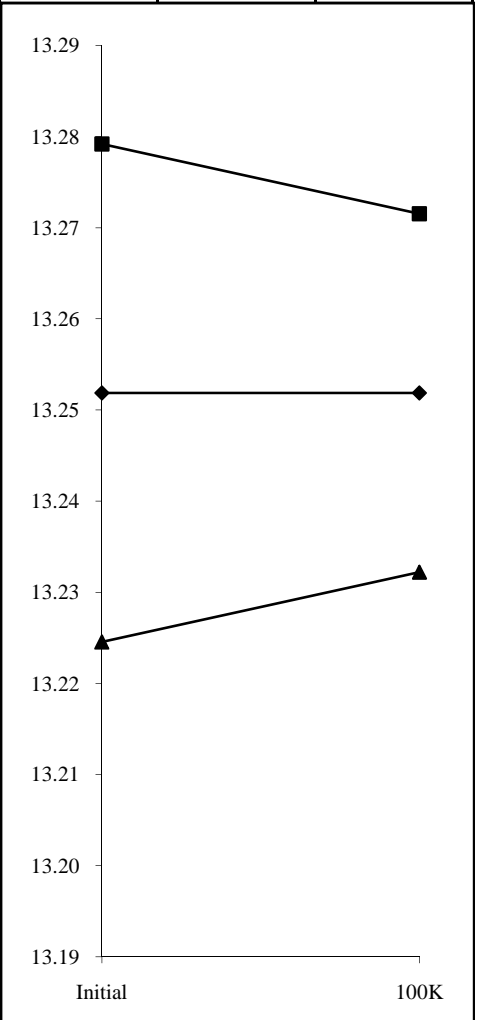
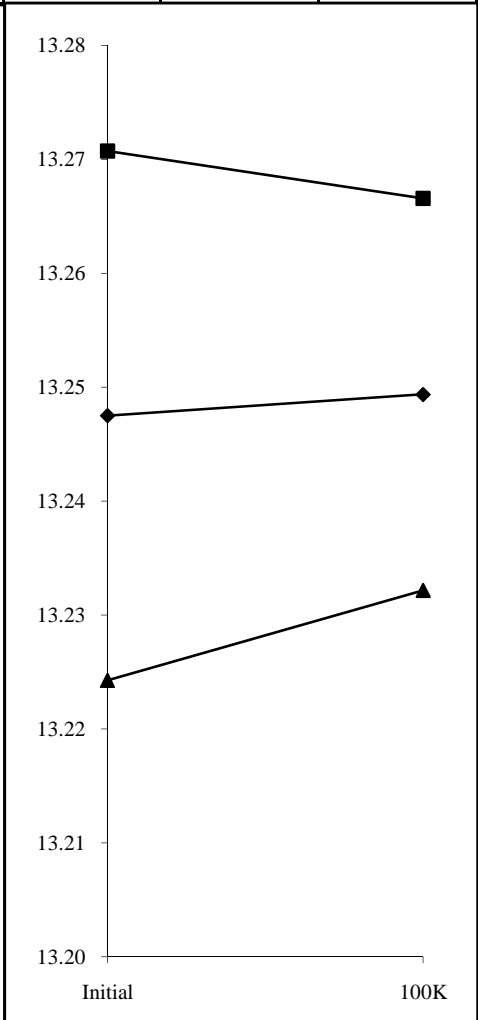
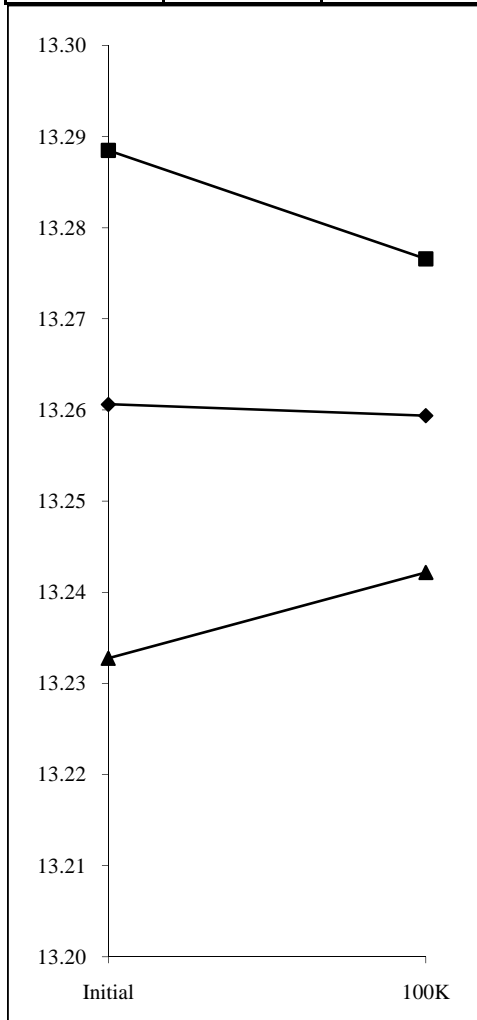
WARNING:

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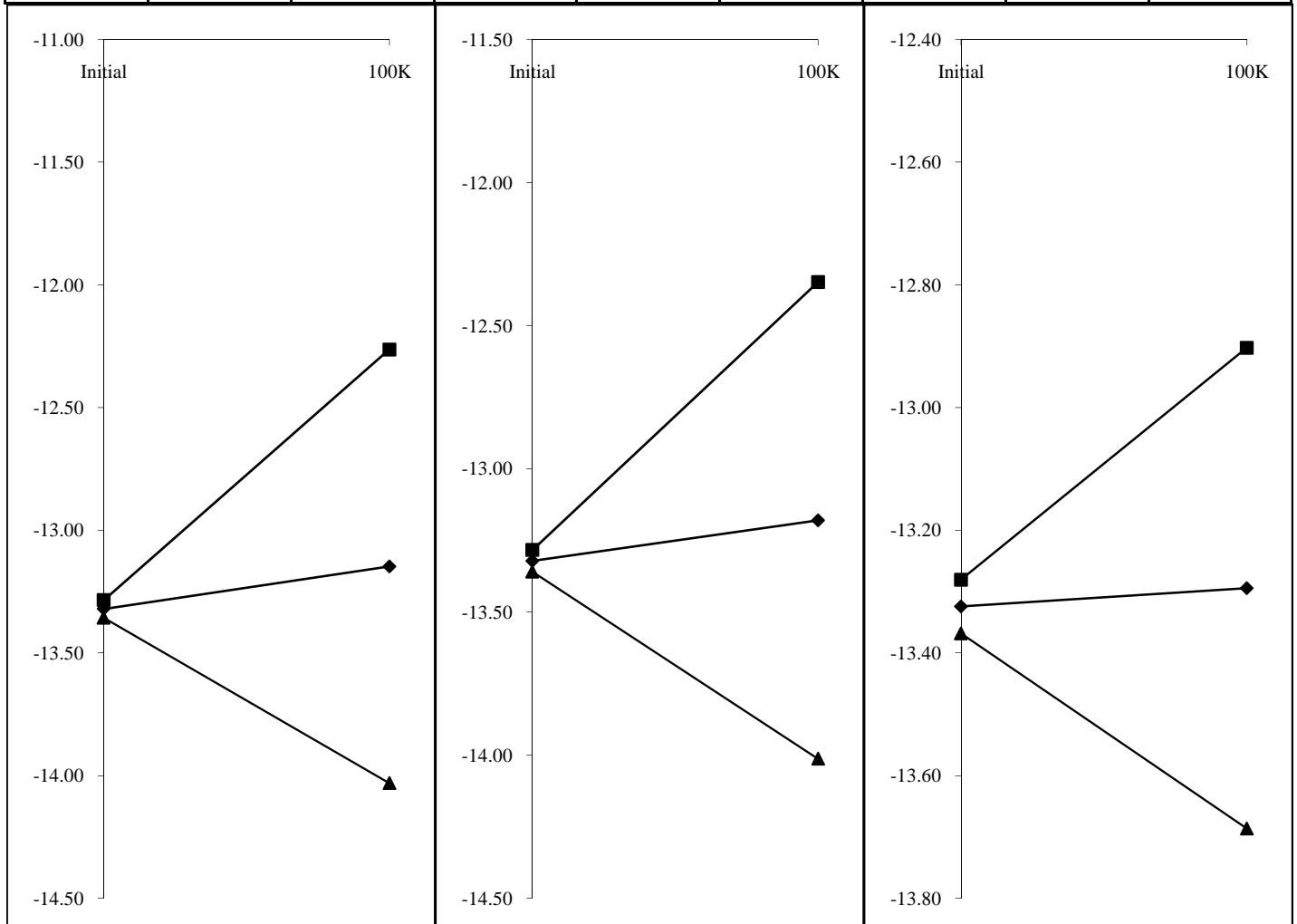
T# 1.0	+ICC	mA	T# 2.0	-ICC	mA	T# 3.0	+VOUT	V
SN	Initial	100K	SN	Initial	100K	SN	Initial	100K
1	9.00	8.98	1	-9.01	-9.00	1	13.21	13.20
2	8.93	8.84	2	-8.96	-8.88	2	13.25	13.26
3	8.88	8.76	3	-8.90	-8.82	3	13.25	13.26
4	8.92	8.77	4	-8.90	-8.81	4	13.25	13.26
6	8.77	8.59	6	-8.79	-8.65	6	13.26	13.27
27	8.87	8.79	27	-8.89	-8.83	27	13.26	13.25
28	8.91	8.89	28	-8.95	-8.95	28	13.26	13.25
29	8.90	8.84	29	-8.94	-8.88	29	13.25	13.25
30	8.82	8.71	30	-8.84	-8.73	30	13.25	13.25
54	8.81	8.78	54	-8.82	-8.82	54	13.26	13.25
55	8.84	8.93	55	-8.83	-8.96	55	13.26	13.25
56	8.90	9.21	56	-8.91	-9.25	56	13.27	13.25
59	8.82	8.71	59	-8.83	-8.72	59	13.26	13.25
81	8.85	8.72	81	-8.86	-8.76	81	13.25	13.25
83	9.00	8.84	83	-9.03	-8.87	83	13.26	13.26
85	9.00	8.87	85	-9.03	-8.92	85	13.25	13.25
87	8.94	8.77	87	-8.97	-8.78	87	13.27	13.27
min	8.77	8.59	min	-9.03	-9.25	min	13.25	13.25
max	9.00	9.21	max	-8.79	-8.65	max	13.27	13.27
stdev	0.07	0.13	stdev	0.07	0.14	stdev	0.01	0.01
average	8.88	8.81	average	-8.90	-8.85	average	13.26	13.26
+3S	9.08	9.22	+3S	-8.68	-8.45	+3S	13.28	13.28
-3S	8.69	8.41	-3S	-9.12	-9.26	-3S	13.24	13.23



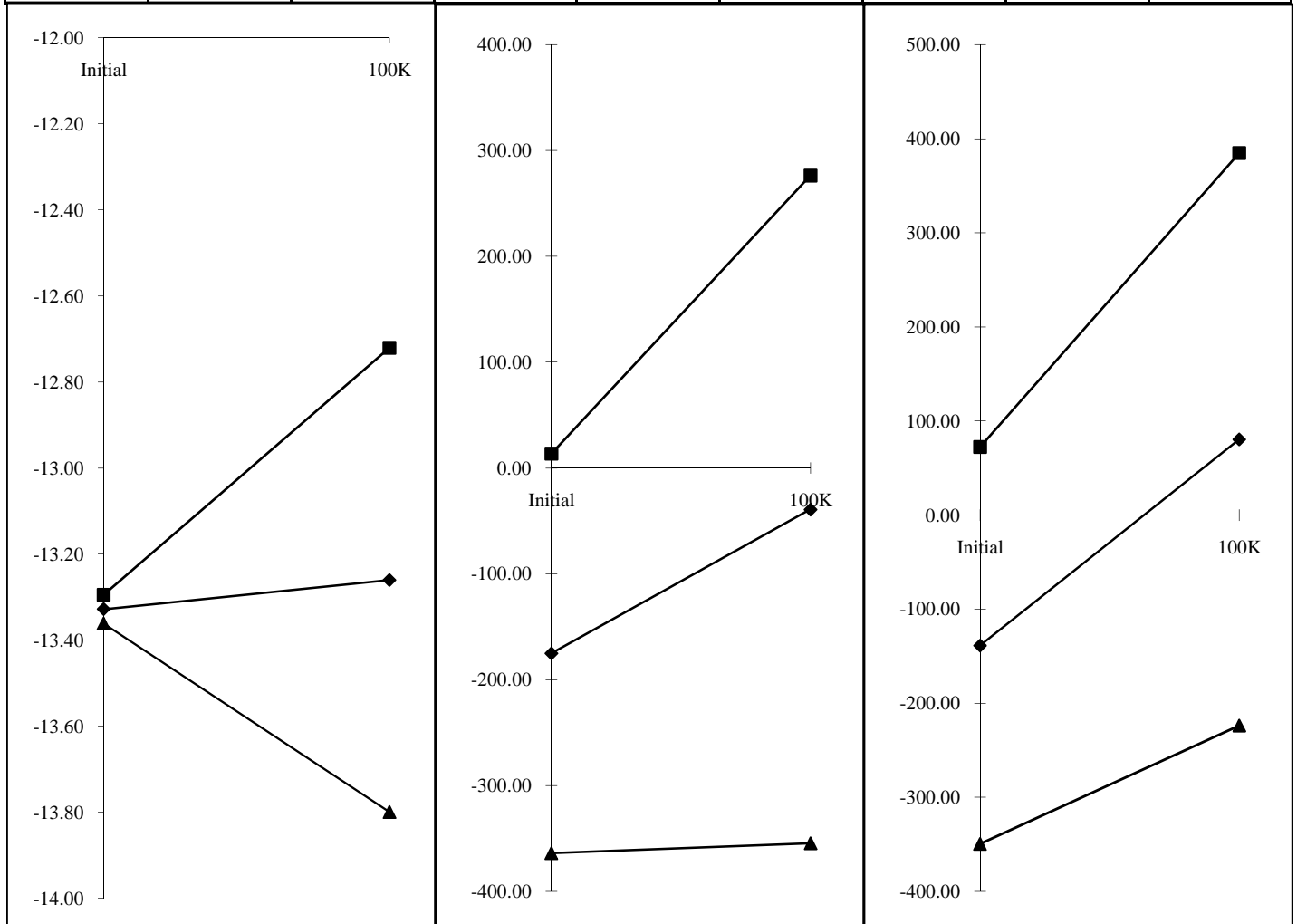
T# 3.1	+VOUT	V	T# 3.2	+VOUT	V	T# 3.3	+VOUT	V
SN	Initial	100K	SN	Initial	100K	SN	Initial	100K
1	13.22	13.21	1	13.21	13.20	1	13.21	13.20
2	13.26	13.26	2	13.24	13.25	2	13.24	13.25
3	13.25	13.26	3	13.25	13.25	3	13.24	13.25
4	13.25	13.26	4	13.25	13.25	4	13.24	13.25
6	13.27	13.27	6	13.26	13.26	6	13.27	13.27
27	13.26	13.26	27	13.24	13.24	27	13.25	13.25
28	13.26	13.26	28	13.24	13.24	28	13.25	13.25
29	13.25	13.25	29	13.25	13.24	29	13.25	13.25
30	13.25	13.26	30	13.25	13.25	30	13.25	13.25
54	13.25	13.25	54	13.25	13.25	54	13.25	13.25
55	13.27	13.26	55	13.25	13.25	55	13.25	13.25
57	13.26	13.25	57	13.26	13.25	57	13.27	13.25
59	13.26	13.26	59	13.25	13.25	59	13.25	13.24
81	13.28	13.27	81	13.23	13.25	81	13.25	13.25
83	13.27	13.26	83	13.25	13.25	83	13.26	13.26
85	13.26	13.26	85	13.25	13.25	85	13.25	13.25
87	13.27	13.26	87	13.24	13.26	87	13.26	13.26
min	13.25	13.25	min	13.23	13.24	min	13.24	13.24
max	13.28	13.27	max	13.26	13.26	max	13.27	13.27
stdev	0.01	0.01	stdev	0.01	0.01	stdev	0.01	0.01
average	13.26	13.26	average	13.25	13.25	average	13.25	13.25
+3S	13.29	13.28	+3S	13.27	13.27	+3S	13.28	13.27
-3S	13.23	13.24	-3S	13.22	13.23	-3S	13.22	13.23



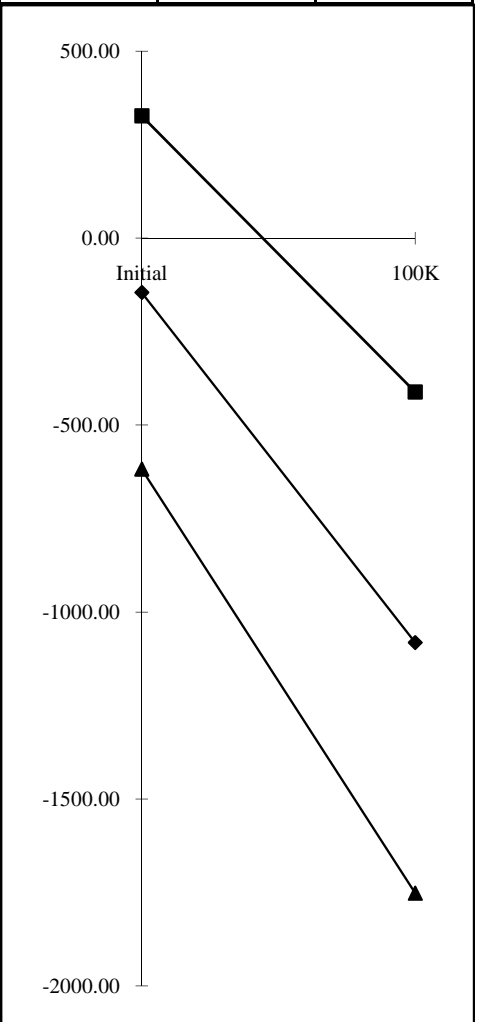
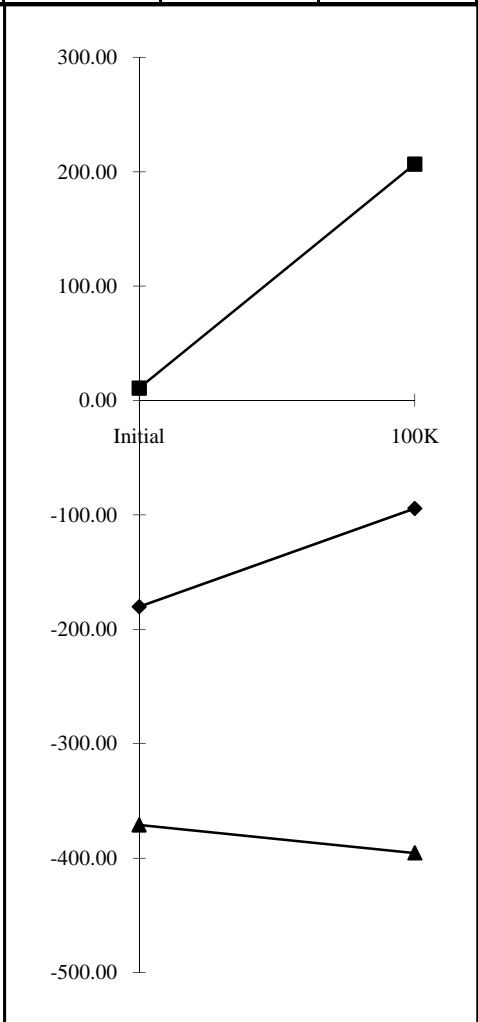
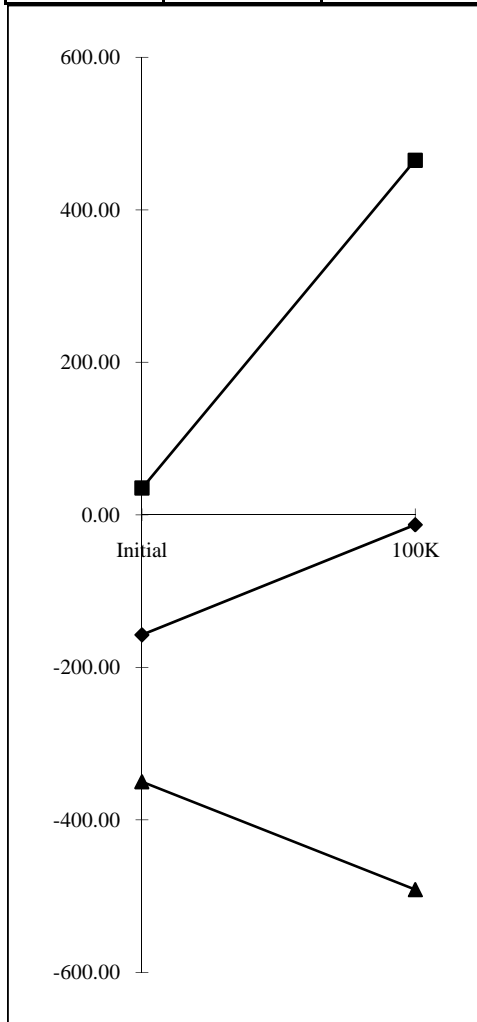
T# 4.0	-VOUT	V	T# 4.1	-VOUT	V	T# 4.2	-VOUT	V
SN	Initial	100K	SN	Initial	100K	SN	Initial	100K
1	-13.29	-13.32	1	-13.29	-13.32	1	-13.30	-13.33
2	-13.32	-13.33	2	-13.32	-13.33	2	-13.32	-13.35
3	-13.29	-13.33	3	-13.29	-13.33	3	-13.30	-13.35
4	-13.33	-13.33	4	-13.33	-13.34	4	-13.34	-13.35
6	-13.33	-13.33	6	-13.33	-13.33	6	-13.33	-13.34
27	-13.32	-12.80	27	-13.32	-12.45	27	-13.32	-13.33
28	-13.31	-12.96	28	-13.31	-12.94	28	-13.32	-13.31
29	-13.32	-13.27	29	-13.32	-13.27	29	-13.32	-13.33
30	-13.32	-13.28	30	-13.32	-13.25	30	-13.33	-13.33
54	-13.32	-13.06	54	-13.32	-13.24	54	-13.33	-13.31
55	-13.32	-12.34	55	-13.32	-13.18	55	-13.33	-13.28
57	-13.33	-12.73	57	-13.33	-12.59	57	-13.34	-12.81
59	-13.33	-13.33	59	-13.33	-13.32	59	-13.33	-13.32
81	-13.33	-13.31	81	-13.34	-13.34	81	-13.31	-13.33
83	-13.33	-13.32	83	-13.33	-13.33	83	-13.34	-13.30
85	-13.33	-13.30	85	-13.33	-13.31	85	-13.34	-13.33
87	-13.30	-13.33	87	-13.30	-13.33	87	-13.29	-13.34
min	-13.33	-13.33	min	-13.34	-13.34	min	-13.34	-13.35
max	-13.29	-12.34	max	-13.29	-12.45	max	-13.29	-12.81
stdev	0.01	0.29	stdev	0.01	0.28	stdev	0.01	0.13
average	-13.32	-13.15	average	-13.32	-13.18	average	-13.32	-13.29
+3S	-13.29	-12.26	+3S	-13.28	-12.35	+3S	-13.28	-12.90
-3S	-13.36	-14.03	-3S	-13.36	-14.01	-3S	-13.37	-13.69



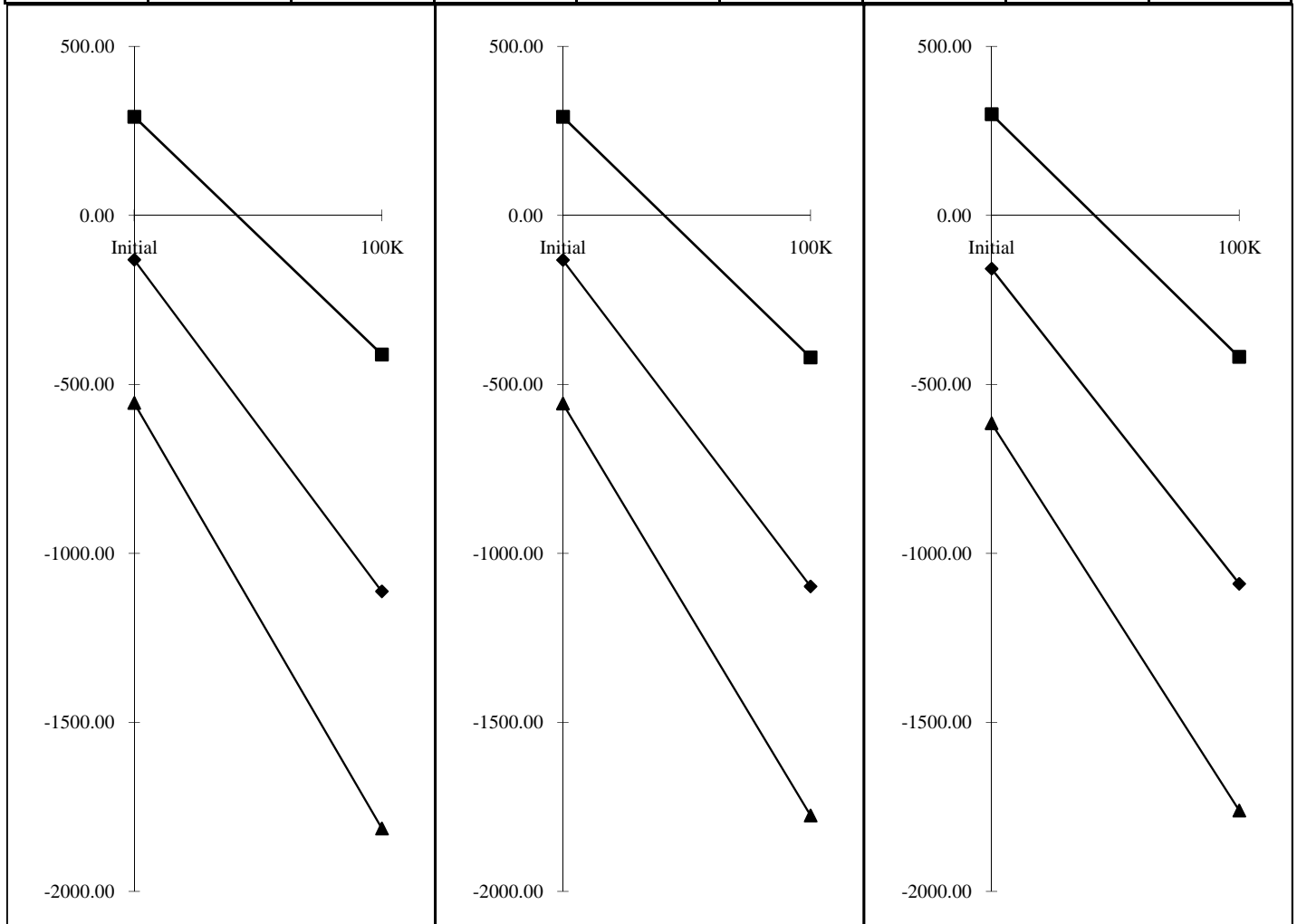
T# 4.3	-VOUT	V	T# 5.0	VIO	uV	T# 5.1	VIO	uV
SN	Initial	100K	SN	Initial	100K	SN	Initial	100K
1	-13.30	-13.33	1	-177.74	-178.11	1	-167.79	-145.37
2	-13.33	-13.35	2	-150.25	67.81	2	-223.38	148.84
3	-13.30	-13.35	3	-188.21	41.96	3	-154.19	235.26
4	-13.33	-13.35	4	-258.31	-46.58	4	-195.61	72.80
6	-13.34	-13.35	6	-169.58	-57.12	6	-148.84	109.20
27	-13.33	-13.33	27	-138.50	87.85	27	-111.62	175.06
28	-13.32	-13.26	28	-219.17	-153.38	28	-108.73	79.97
29	-13.32	-13.32	29	-195.57	-122.33	29	-77.49	-0.15
30	-13.33	-13.33	30	-250.41	46.89	30	-70.80	275.14
54	-13.33	-13.27	54	-69.56	178.28	54	-44.31	150.76
55	-13.33	-12.92	55	-258.13	-77.43	55	-246.90	-79.64
57	-13.34	-12.71	57	-200.55	-57.71	57	-240.32	6.83
59	-13.33	-13.32	59	-143.54	5.83	59	-149.77	117.76
81	-13.33	-13.32	81	-188.88	-235.48	81	-98.55	-18.62
83	-13.34	-13.32	83	-31.07	-93.26	83	-4.16	72.59
85	-13.34	-13.32	85	-142.84	-141.97	85	-186.39	-19.31
87	-13.31	-13.34	87	-199.51	-69.40	87	-157.92	-38.83
min	-13.34	-13.35	min	-258.31	-235.48	min	-246.90	-79.64
max	-13.30	-12.71	max	-31.07	178.28	max	-4.16	275.14
stdev	0.01	0.18	stdev	62.91	105.19	stdev	70.32	101.43
average	-13.33	-13.26	average	-175.26	-39.13	average	-138.69	80.48
+3S	-13.29	-12.72	+3S	13.47	276.43	+3S	72.26	384.77
-3S	-13.36	-13.80	-3S	-363.98	-354.69	-3S	-349.63	-223.81



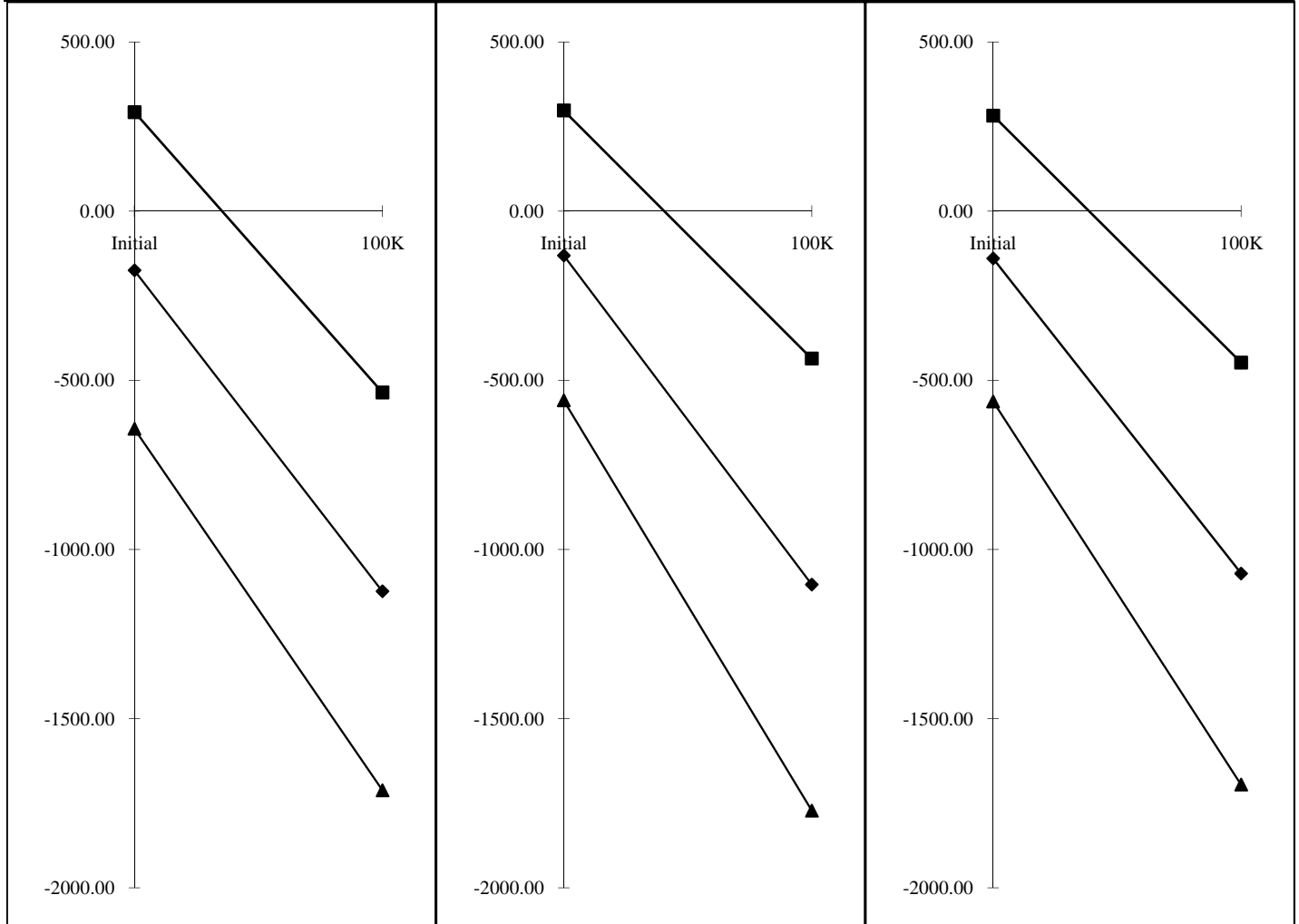
T# 5.2	VIO	uV	T# 5.3	VIO	uV	T# 6.0	+IIB	nA
SN	Initial	100K	SN	Initial	100K	SN	Initial	100K
1	-190.18	-189.20	1	-227.59	-239.99	1	-148.93	-149.02
2	-164.91	115.78	2	-199.92	-47.71	2	-147.34	-1235.34
3	-117.40	159.47	3	-154.75	33.40	3	-145.01	-1222.98
4	-179.97	75.91	4	-273.09	-52.06	4	-161.31	-1236.72
6	-98.81	112.30	6	-152.76	-69.89	6	-302.98	-1214.32
27	-264.19	53.69	27	-240.35	-74.41	27	-149.42	-1117.68
28	-193.77	73.59	28	-238.77	-63.22	28	-150.85	-1110.76
29	-76.08	23.03	29	-225.54	-215.27	29	-140.68	-1104.28
30	-236.28	115.72	30	-174.49	66.33	30	-145.11	-1314.35
54	-89.74	-225.22	54	-206.82	-195.14	54	-167.23	-1060.41
55	-246.34	-272.34	55	-210.89	-175.18	55	-222.95	-1100.14
57	-201.16	-300.81	57	-238.28	-231.07	57	-247.20	-1142.79
59	-193.18	-260.45	59	-48.23	-218.71	59	-146.64	-1307.04
81	-107.99	-35.29	81	-206.72	-191.93	81	369.82	-482.29
83	-52.09	58.13	83	-123.67	-90.95	83	9.91	-673.41
85	-175.51	125.52	85	-79.24	68.57	85	-297.42	-924.38
87	-125.09	-31.26	87	-112.07	-56.39	87	-278.40	-1059.81
min	-264.19	-300.81	min	-273.09	-231.07	min	-302.98	-1314.35
max	-52.09	159.47	max	-48.23	68.57	max	369.82	-482.29
stdev	64.16	159.41	stdev	63.63	100.35	stdev	157.56	223.38
average	-157.66	-13.26	average	-180.35	-94.60	average	-145.18	-1081.67
+3S	34.82	464.97	+3S	10.53	206.45	+3S	327.51	-411.53
-3S	-350.13	-491.50	-3S	-371.23	-395.65	-3S	-617.86	-1751.81



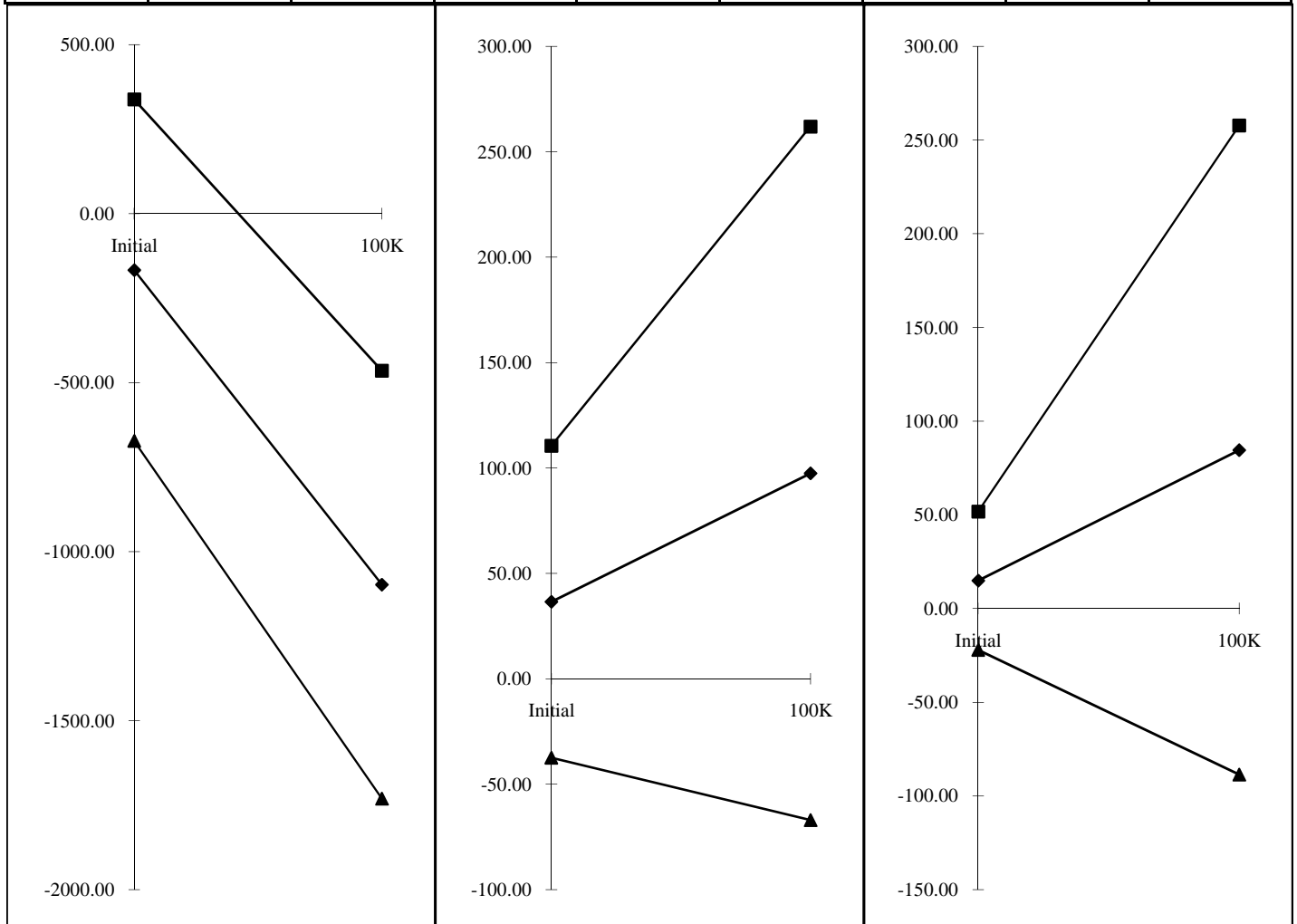
T# 6.1	+IIB	nA	T# 6.2	+IIB	nA	T# 6.3	+IIB	nA
SN	Initial	100K	SN	Initial	100K	SN	Initial	100K
1	-137.71	-137.66	1	-133.36	-133.32	1	-146.46	-146.45
2	-137.42	-1303.60	2	-146.78	-1281.51	2	-152.41	-1231.02
3	-139.39	-1281.03	3	-150.90	-1275.24	3	-163.38	-1277.06
4	-161.17	-1282.11	4	-161.08	-1271.88	4	-159.00	-1253.02
6	-257.31	-1244.00	6	-268.90	-1252.62	6	-288.47	-1121.13
27	-150.19	-1244.88	27	-158.63	-1238.92	27	-165.52	-1111.28
28	-147.18	-1263.49	28	-146.31	-1225.05	28	-148.90	-1087.37
29	-144.57	-1238.38	29	-147.28	-1167.83	29	-157.12	-1103.64
30	-130.55	-1379.05	30	-133.74	-1369.49	30	-134.26	-1273.02
54	-113.29	-818.88	54	-101.24	-764.54	54	-233.03	-1091.76
55	-192.55	-834.22	55	-204.27	-790.16	55	-281.89	-1096.70
57	-240.03	-1067.19	57	-188.11	-1059.88	57	-262.03	-1241.21
59	-134.03	-1170.08	59	-141.76	-1216.44	59	-153.26	-1375.49
81	342.45	-544.78	81	343.88	-606.25	81	356.98	-472.38
83	-7.72	-854.98	83	-8.90	-855.54	83	-53.82	-758.45
85	-227.09	-1033.29	85	-251.66	-1026.58	85	-247.03	-900.71
87	-260.57	-1245.29	87	-247.80	-1163.70	87	-279.28	-1043.79
min	-260.57	-1379.05	min	-268.90	-1369.49	min	-288.47	-1375.49
max	342.45	-544.78	max	343.88	-606.25	max	356.98	-472.38
stdev	141.22	233.77	stdev	141.44	225.87	stdev	152.38	223.66
average	-131.29	-1112.83	average	-132.09	-1097.85	average	-157.65	-1089.88
+3S	292.38	-411.51	+3S	292.22	-420.23	+3S	299.49	-418.91
-3S	-554.96	-1814.15	-3S	-556.41	-1775.47	-3S	-614.80	-1760.84



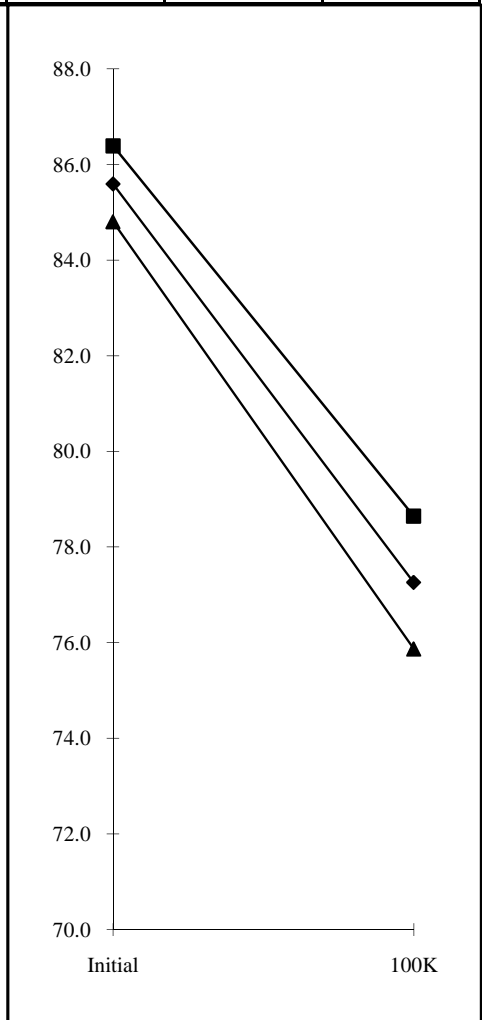
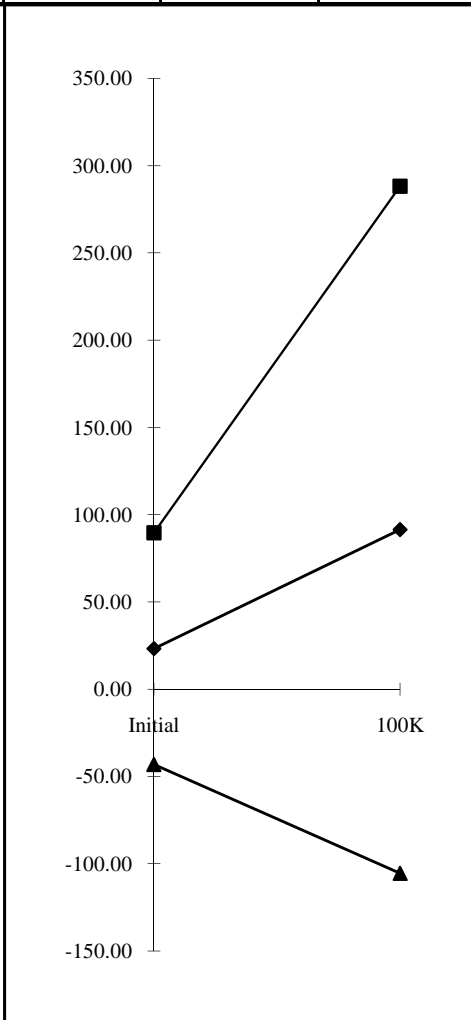
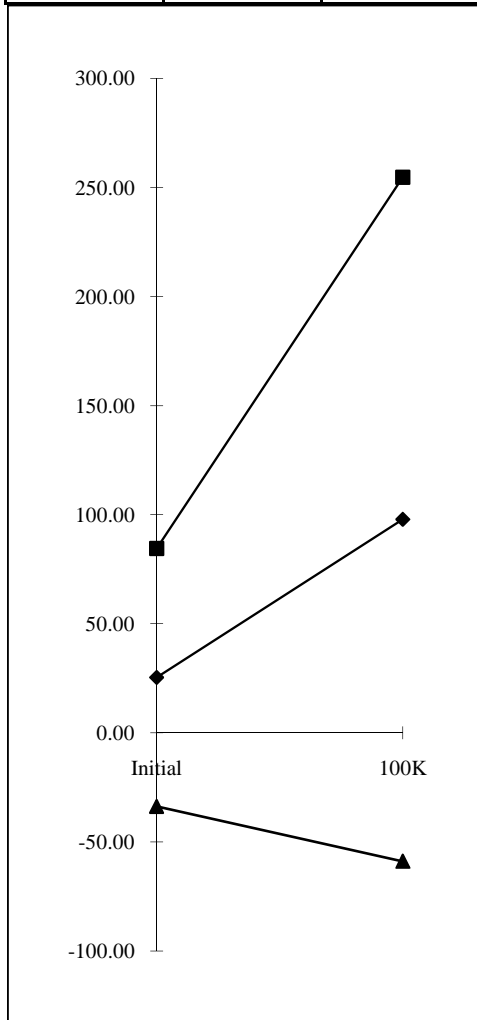
T# 7.0	-IIB	nA	T# 7.1	-IIB	nA	T# 7.2	-IIB	nA
SN	Initial	100K	SN	Initial	100K	SN	Initial	100K
1	-138.93	-139.06	1	-117.86	-117.88	1	-137.37	-137.50
2	-130.66	-1305.61	2	-91.79	-1242.38	2	-129.97	-1210.00
3	-135.26	-1288.23	3	-132.06	-1245.40	3	-148.69	-1258.45
4	-229.70	-1226.87	4	-153.46	-1288.46	4	-135.23	-1232.07
6	-346.35	-1231.99	6	-290.08	-1227.05	6	-325.77	-1215.71
27	-175.37	-1201.39	27	-146.66	-1185.31	27	-141.18	-1106.71
28	-140.17	-1256.34	28	-137.60	-1166.71	28	-129.92	-1064.42
29	-139.52	-1202.59	29	-136.99	-1140.97	29	-136.95	-1101.08
30	-129.85	-1358.50	30	-105.16	-1272.16	30	-119.19	-1237.20
54	-227.16	-952.15	54	-131.73	-985.58	54	-145.35	-953.05
55	-286.97	-962.96	55	-213.05	-1065.48	55	-208.20	-974.27
57	-300.53	-1086.88	57	-240.03	-1127.84	57	-253.36	-1167.35
59	-150.54	-1177.72	59	-138.74	-1313.42	59	-144.99	-1308.54
81	307.02	-585.07	81	326.77	-448.84	81	298.22	-525.95
83	-58.59	-885.31	83	7.59	-793.60	83	7.54	-741.91
85	-343.80	-1101.60	85	-248.39	-961.65	85	-228.40	-926.58
87	-312.44	-1162.51	87	-258.38	-1203.58	87	-291.80	-1120.60
min	-346.35	-1358.50	min	-290.08	-1313.42	min	-325.77	-1308.54
max	307.02	-585.07	max	326.77	-448.84	max	298.22	-525.95
stdev	156.06	195.96	stdev	142.78	222.74	stdev	140.82	207.98
average	-174.99	-1124.11	average	-130.61	-1104.28	average	-139.58	-1071.49
+3S	293.17	-536.23	+3S	297.73	-436.06	+3S	282.89	-447.54
-3S	-643.16	-1711.99	-3S	-558.95	-1772.49	-3S	-562.05	-1695.44



T# 7.3	-IIB	nA	T# 8.0	IIO	nA	T# 8.1	IIO	nA
SN	Initial	100K	SN	Initial	100K	SN	Initial	100K
1	-140.30	-140.33	1	10.01	9.95	1	19.85	19.78
2	-129.05	-1252.14	2	16.68	70.26	2	45.63	61.22
3	-163.59	-1285.34	3	9.75	65.25	3	7.33	35.63
4	-172.30	-1250.96	4	68.39	9.85	4	7.71	6.34
6	-366.28	-1180.41	6	43.37	17.67	6	32.77	16.95
27	-153.31	-1199.79	27	25.95	83.71	27	3.53	59.57
28	-135.44	-1190.72	28	10.67	145.58	28	9.58	96.78
29	-136.20	-1112.49	29	1.15	98.31	29	7.58	97.41
30	-132.64	-1343.80	30	15.26	44.15	30	25.39	106.88
54	-232.45	-875.47	54	59.93	108.26	54	18.44	166.70
55	-270.56	-908.11	55	64.02	137.18	55	20.49	231.27
57	-307.45	-1093.97	57	53.34	55.91	57	0.00	60.65
59	-174.15	-1263.48	59	3.90	129.32	59	4.71	143.34
81	367.09	-542.18	81	62.79	102.78	81	15.67	95.93
83	-34.73	-831.26	83	68.50	211.90	83	15.30	61.38
85	-306.85	-1067.31	85	46.37	177.22	85	21.30	71.63
87	-321.80	-1171.12	87	34.04	102.70	87	2.19	41.71
min	-366.28	-1343.80	min	1.15	9.85	min	0.00	6.34
max	367.09	-542.18	max	68.50	211.90	max	45.63	231.27
stdev	168.44	211.03	stdev	24.66	54.84	stdev	12.29	57.75
average	-166.86	-1098.03	average	36.51	97.50	average	14.85	84.59
+3S	338.45	-464.96	+3S	110.49	262.03	+3S	51.73	257.85
-3S	-672.16	-1731.11	-3S	-37.48	-67.03	-3S	-22.03	-88.68



T# 8.2	IIO	nA	T# 8.3	IIO	nA	T# 9.0	AVO	dB
SN	Initial	100K	SN	Initial	100K	SN	Initial	100K
1	4.00	4.19	1	6.16	6.13	1	85.2	85.2
2	16.82	71.52	2	23.37	21.12	2	85.4	77.2
3	2.21	16.79	3	0.22	8.29	3	85.6	77.4
4	25.85	39.81	4	13.31	2.06	4	85.3	76.8
6	56.86	36.91	6	77.81	59.28	6	85.4	77.3
27	17.45	132.21	27	12.21	88.51	27	85.9	77.5
28	16.39	160.63	28	13.46	103.34	28	85.8	77.5
29	10.34	66.75	29	20.91	8.85	29	85.7	77.7
30	14.55	132.28	30	1.62	70.78	30	86.0	77.7
54	44.11	188.51	54	0.58	216.30	54	86.0	77.8
55	3.92	184.10	55	11.33	188.59	55	85.7	76.3
57	65.25	107.47	57	45.42	147.25	57	85.6	77.4
59	3.23	92.09	59	20.89	112.01	59	85.8	77.9
81	45.66	80.30	81	10.11	69.79	81	85.2	76.8
83	16.44	113.63	83	19.09	72.81	83	85.5	77.2
85	23.27	100.00	85	59.82	166.60	85	85.2	76.5
87	44.00	43.10	87	42.51	127.33	87	85.4	77.1
min	2.21	16.79	min	0.22	2.06	min	85.2	76.3
max	65.25	188.51	max	77.81	216.30	max	86.0	77.9
stdev	19.70	52.26	stdev	22.13	65.62	stdev	0.3	0.5
average	25.40	97.88	average	23.29	91.43	average	85.6	77.3
+3S	84.50	254.66	+3S	89.69	288.31	+3S	86.4	78.6
-3S	-33.71	-58.89	-3S	-43.11	-105.44	-3S	84.8	75.9



T# 9.1			T# 9.2			T# 9.3		
SN	AVO	dB	SN	AVO	dB	SN	AVO	dB
	Initial	100K		Initial	100K		Initial	100K
1	86.0	86.0	1	86.0	86.0	1	85.8	85.8
2	86.1	78.8	2	86.0	79.1	2	86.0	79.2
3	86.2	78.8	3	86.3	79.2	3	86.2	79.2
4	85.8	78.2	4	85.8	78.6	4	85.8	78.6
6	86.0	78.9	6	86.0	78.9	6	86.3	79.0
27	86.6	76.8	27	86.4	79.6	27	86.7	79.7
28	86.6	77.8	28	86.4	79.5	28	86.5	79.5
29	86.4	79.1	29	86.4	79.4	29	86.4	79.4
30	86.7	79.2	30	86.7	79.4	30	86.6	79.5
54	86.6	78.8	54	86.7	79.5	54	86.7	79.3
55	86.4	78.0	55	86.4	78.8	55	86.5	78.8
57	86.0	75.6	57	86.2	76.7	57	86.4	78.8
59	86.6	79.4	59	86.6	79.5	59	86.3	79.3
81	86.2	78.9	81	86.0	78.4	81	86.0	78.5
83	86.2	78.7	83	86.1	78.2	83	86.2	78.8
85	86.0	78.1	85	86.0	78.3	85	86.0	78.3
87	85.9	78.6	87	85.9	78.6	87	86.1	78.8
min	85.8	75.6	min	85.8	76.7	min	85.8	78.3
max	86.7	79.4	max	86.7	79.6	max	86.7	79.7
stdev	0.3	1.0	stdev	0.3	0.7	stdev	0.3	0.4
average	86.3	78.4	average	86.2	78.9	average	86.3	79.0
+3S	87.1	81.3	+3S	87.1	81.1	+3S	87.1	80.3
-3S	85.4	75.4	-3S	85.4	76.6	-3S	85.5	77.8

